

What is claimed is:

1. A method for manufacturing a cutting balloon catheter, comprising the steps of:

providing a strip of polymeric material;

providing a cutting member, the cutting member including a top cutting portion and a slotted base portion having a plurality of slots;

liquefying at least a portion of the strip;

disposing the cutting member adjacent the strip and allowing the liquefied portion of the strip to flow into the slots; and

attaching the strip to a balloon.

2. The method of claim 1, wherein the step of liquefying at least a portion of the strip includes heating the strip.

3. The method of claim 2, wherein heating the strip includes heating the strip with a laser.

4. The method of claim 1, wherein the step of liquefying at least a portion of the strip includes melting the strip.

5. The method of claim 1, wherein the step of liquefying at least a portion of the strip includes liquefying the strip with a solvent.

6. The method of claim 5, further comprising the step of removing the solvent.

7. The method of claim 1, wherein the step of disposing the cutting member adjacent the strip and allowing the liquefied portion of the strip to flow into the slots includes submerging the cutting member in the strip.

8. The method of claim 7, wherein the step of submerging the cutting member in the strip includes submerging the slots of the cutting member in the strip.

9. The method of claim 7, wherein the step of submerging the slots of the cutting member in the strip interlocks the strip with the cutting member.

10. The method of claim 1, wherein the step of attaching the strip to a balloon includes heating the strip.

11. The method of claim 1, wherein the step of attaching the strip to a balloon includes at least partially solvating the strip with a solvent.

12. The method of claim 11, further comprising the step of removing the solvent.

13. The method of claim 1, further comprising the step of cooling the liquefied portion of the strip.

14. The method of claim 1, further comprising the step of disposing a second cutting member adjacent the strip.

15. The method of claim 1, wherein the step of disposing the cutting member adjacent the strip and allowing the liquefied portion of the strip to flow into the slots precedes the step of attaching the strip to a balloon.

16. The method of claim 1, wherein the step of disposing the cutting member adjacent the strip and allowing the liquefied portion of the strip to flow into the slots follows the step of attaching the strip to a balloon.

17. A method for manufacturing a cutting balloon catheter, comprising the steps of:

providing a joining member;

providing a cutting blade, the cutting blade having a cutting surface and an interlocking surface;

softening the joining member;

positioning the cutting blade adjacent the joining member so that the interlocking surface is submerged within the joining member;

solidifying the joining member so that the cutting blade and the joining member are secured to one another; and

attaching the joining member and the cutting blade to an angioplasty balloon.

18. The method of claim 17, wherein the step of softening the joining member includes heating the strip.

19. The method of claim 18, wherein heating the joining member includes heating the joining member with a laser.

20. The method of claim 18, wherein heating the joining member includes melting the joining member.

21. The method of claim 17, wherein the step of softening the joining member includes at least partially solvating the joining member with a solvent.

22. The method of claim 17, wherein the step of attaching the joining member and the cutting blade to an angioplasty balloon includes heating the joining member.

23. The method of claim 22, wherein heating includes heating the joining member with a laser.

24. The method of claim 17, wherein the step of attaching the joining member and the cutting blade to an angioplasty balloon includes at least partially solvating the joining member with a solvent.

25. The method of claim 17, further comprising the step of disposing a second cutting blade adjacent the joining member.

26. A cutting balloon catheter, comprising:  
an elongate catheter shaft;  
a balloon coupled to the catheter shaft;  
a polymeric joining member attached to the balloon; and  
a cutting members coupled to the joining member, the cutting member including a cutting surface and a slotted base, the slotted base being submerged within the joining member.